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SOME INTERESTING FORMS OF POLYTRICHUM.

By A. J. GROUT.

Polytrichum Smithiae n. sp.

While collecting on Mt. Mansfield summit in August, 1902, I noted in moist depressions of the moss covered summit a *Polytrichum* which looked to me like *P. gracile* and which I collected in quantity intending to distribute it as that species. Microscopic examination, however, showed that it could not be *P. gracile* as the terminal cells of the lamellæ were broader than high and usually concave on the outer face as in *P. Ohioense*. The plant was then referred to *P. Ohioense* as a variety, but on preparing the description for publication it seemed so distinct as to be worthy of specific rank. I have named it in honor of Mrs. Annie Morrill Smith, who has done so much to advance the study of mosses in this country.

Plants dioicous, light green, small for the genus, about 2 cm. high exclusive of sporophyte, rarely reaching 3 cm.; leaves reaching 5 mm. in length exclusive of the sheathing base, erect spreading when moist, closely appressed when dry, not curling in the least, serrate on the margins, lamellæ about 32, four to six cells high, flat or usually concave on the upper surface; seta about 3 cm. long, pale; capsules small, urn 3-4 mm. long with operculum beaked as in *P. Ohioense*, inclined to horizontal, slightly curved with an indistinct hypophysis, four angled.

Distinct from *P. Ohioense* in its constantly smaller size in all parts, leaves closely appressed and straight when dry, and lighter color. Its habitat is similar to that of *P. strictum* and it seems to be related to *P. Ohioense* much in the same manner as *P. strictum* is to *P. juniperinum*.

Forms close to this were collected on the summit of Mt. Katahdin, Maine, by F. P. Briggs, August, 1892; on Mt. Mansfield, August, 15, 1892, by Mrs. Britton

Polytrichum commune uliginosum Heuben.

In August, 1898, I collected on the summit of Mt. Washington a form of *Polytrichum commune* with very small capsules, calyptra reaching only to the base of the capsule, and the leaves spreading-recurved when dry. This seems to be nearer the variety *uliginosum* than any described form, although the leaves and stems are shorter than is indicated in Limpricht's description. For this form I would suggest the name forma *Washingtonianum*.

Plate VIII. Figs. 1, 10 and 11. *Polytrichum Smithiae*. Figs. 2, 3, 12 and 4. *P. Ohioense*. Fig 5. *P. commune* Fig. 6. *P. commune*, pressed when wet with leaves expanded. Fig. 7. *P. commune uliginosum* forma *Washingtonianum*. Fig. 8. *P. commune uliginosum*, from State of Washington. Fig. 9. *P. commune perigoniale*, showing the elongated perichaetial leaves.



PLATE VIII.